***SECTION 3***

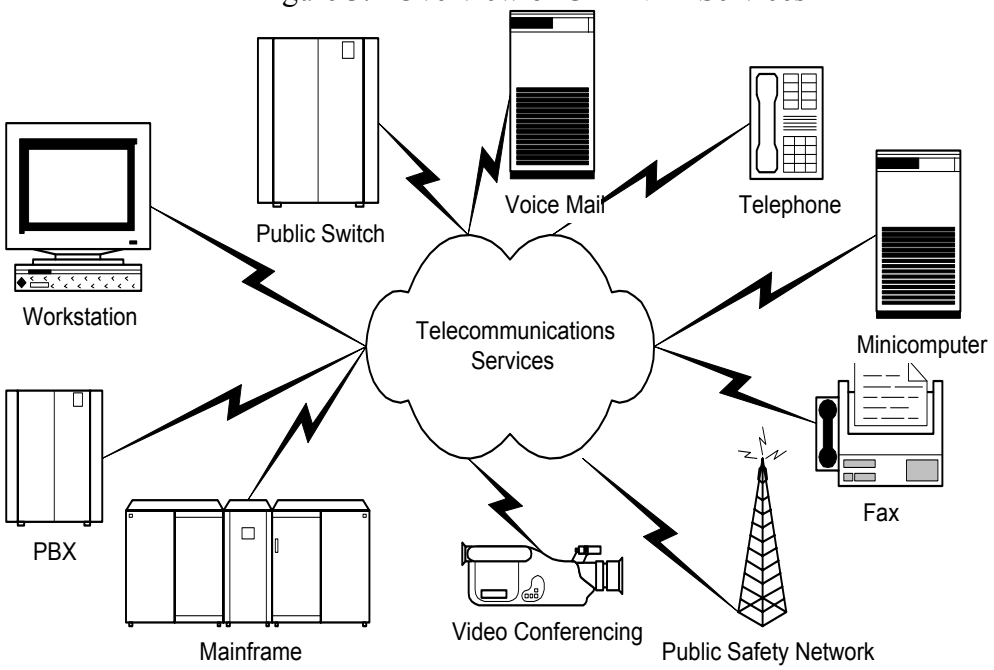
***CURRENT ENVIRONMENT***

This section is intended to provide interested parties an overview of the current telecommunications environment contracted and managed by the Department of General Services, Telecommunications Division (DGS/TD).

## 3.1. State Telecommunications Networks and Service

The State of California is one of the largest telecommunications customers in the world. The State contracts a vast and sophisticated telecommunications infrastructure made up of multiple agency networks and services. The infrastructure reflects the complexity of the government itself and the diverse missions of its agencies. DGS/TD has contract oversight for state telecommunications services worth approximately $300 million dollars in annual expenditures. Under provisions of the current California Integrated Information Network (CALNET) Master Agreement CNT-001, services include local and long distance, toll free, calling card, simple business line, consolidated local such as Centrex and CentraNet, voice mail, data, Asynchronous Transfer Mode (ATM), frame relay, building wiring, consulting and other services (Figure 3.1). DGS/TD offers this suite of services to State, county, local, and non-profit tax-supported agencies in California.

Figure 3.1 Overview of CALNET Services



## 3.2. Existing Network Services

The State has requirements for a broad range of voice and data networks, line side, and other telecommunications services. The contract provides the State services described in this section.

Additional product descriptions of services, pricing, installation intervals and service level agreement information, may be found at www.calnetinfo.com.

- Full Product Descriptions (Rider B)
- Service Level Agreements (Rider B)
- Service Level Agreements Installation Intervals (Rider B)
- Rate Tables (Rider C)

Note: See "Performance Commitments" and "Rights and Remedies" at the bottom section of each Full Product Description for the applicable Service Level Agreement Table (A through E) in Rider B.

Refer to Table A for a report of monthly quantities for most services offered by the current CALNET contractor.

Refer to Table B for the list of reports and tools provided by the current CALNET contractor.

### *3.2.1. Voice Network Services*

The following is a list of services offered by the CALNET contract.

#### 3.2.1.1. Local Usage

Local usage generally consists of local, Zone 3, and local toll calling. Local and zone calling is provided predominately through SBC and resale in Verizon territory. For State locations within Verizon territory, local toll is provided through the long distance network service described below. The remaining locations are served by other ILEC's. In all cases, the primary contractor acts as the single point-of-contact for provisioning, maintenance, billing, customer support, and management of the services provided by the ILEC's to the State.

#### 3.2.1.2 Long Distance

This service is used for long distance calls between State locations, as well as long distance calls to the entire U.S. and to almost every country in the world.

#### 3.2.1.3 Long Distance Access

Long distance service is accessed through one of two methods: switched (Dial 1) via pre-subscription or dedicated (T-1) access.

The contractor works closely with CALNET customer agencies to determine what method is best for their specific situation. Considerations include cost benefit, traffic engineering, and usage analysis. The contractor provides a private network dial plan. Dedicated access customers can dial an access digit, typically 9, and then the private network prefix (RNX) and 4 digit line number (XXXX) to complete calls to other dedicated access connected customers. Switched access customers dial 1+700+RNX+XXXX to call dedicated access customers.

#### *3.2.1.3.1 Termination Types*

Various types of direct dedicated access arrangements for agency equipment are offered. Some equipment may require analog termination, some may use a direct T-1 Digital Termination (DDI), and others may use a Primary Rate Interface (PRI) termination, Basic Rate Interface (BRI), and Digital Gateway (T-1).

### 3.2.1.4 Disaster Readiness

Disaster readiness services are provided in the form of planning, recovery services, on-net calling via private backbone network, coordination of the relocation of services, referrals, voice mail for emergency broadcast/announcement, and service restoration. On-net calling via private backbone network bypasses "public network" for on-net calls in case of a disaster.

Availability: All contractor network services.

### 3.2.1.5 Advanced Intelligent Network Services

Advanced Intelligent Network (AIN) service is provided for State use and is referred to as Custom Virtual Network (CVN). It is a Centrex based product for multiple-location customers that make a high volume of calls between locations. AIN allows a customer to connect their Centrex's so their telephone lines appear to be part of the same system.

Availability: Available with some limitations.

### 3.2.1.6 Enhanced Toll Free Services

Enhanced toll free service provides statewide toll free calling services. The following toll free service termination types are available: Switched (Business Line), Switched WATS (WAL), Dedicated (DAL), including analog and T-1 termination.

Availability: Nationwide.

### 3.2.1.7 800 Enhanced Call Routing

Enhanced Call Routing (ECR) routes calls to customer locations based on network-provided data such as Dialed Number Identification Service (DNIS), Automatic Number Identification (ANI), or caller-input Dual Tone Multi-Frequency (DTMF) telephone keypad entries. Database routing can be based on, but not limited to, the following criteria:

- Dialed number
- ANI
- Location of caller
- Caller entered digits
- Time of day, day of the week

Advanced 800 features can be used to selectively route calls to the platform or to the final customer destination.

Availability: Nationwide.

### 3.2.1.8. International Toll Free

International toll free service allows a toll free call originating in another country to complete to a U.S. destination. It also provides outbound 800 terminating service to overseas locations as part of correspondent administrations incoming international service.

Availability: Worldwide.

### 3.2.1.9. 900 Services

900 Service provides passive or interactive information to callers on a "pay as you go" basis. Agencies may sign up for "transmission" and "billing and collection"(B&C) or "transmission only". 900 calls can be transmitted from any domestic location and terminate the calls on its Customer's Premise Equipment (CPE). A dedicated access T-1 is required.

Availability: Nationwide.

### 3.2.1.10. Network Call Redirect

Network Call Redirect (NCR) is a long distance call overflow product that allows customers to complete calls that would normally go unanswered because of busies, ring no answers, or other customer specific reasons. NCR allows calls to be rerouted to other pre-defined locations. Alternate destinations can be network announcements, domestic or international locations. A network manager has an unlimited number of choices of why,

where, and how to overflow calls based on trunk group, type of service (both inbound and outbound) or individual toll free.

Availability: Nationwide.

#### 3.2.1.11. Operator Services

##### *3.2.1.11.1. Operator Services - IntraLATA*

Operator service calling is currently available throughout California's local LATAs. Local operator service provides general assistance to callers and offers the caller alternatives for billing calls for premise owner telephones.

##### *3.2.1.11.2. Operator Services – Long Distance*

Operator services – long distance provides general assistance to callers and offers the caller alternatives for billing long distance calls for premise owner telephones. Callers, using operator service, can always get general assistance and help completing calls and arranging alternate billing options for long distance or International calling.

#### 3.2.1.12. Calling Card and Prepaid Calling Card

Calling card services allow a toll free number to be dialed for accessing the calling card service, entering an authorization number and placing a calling card type call from anywhere within the world where service agreements exist between the U.S. and the foreign countries for telephone service.

Prepaid calling card is a telephone calling card that is paid in advance. Once the value of the card has been depleted, the card can either be discarded or recharged to add additional calling time.

#### 3.2.1.13. Teleconferencing – Audio

Audio conferencing is available to users nationwide. Access types consist of dial out and toll free meet me. Features such as ASAP calling, pre-notification, roll call, etc., are offered.

### *3.2.2. Line Side Services*

Line side telephone services, also referred to as Class 5 services, are provided on a statewide basis to be jointly used by multiple agencies. The services include basic, Enhanced Business or Centrex, and ISDN line services as standard offerings.

Flexible pricing options provide users the choice of low cost basic business services or more sophisticated feature rich services.

#### 3.2.2.1. Business Line Service

Measured business lines are provided throughout California. There are several optional features to customize the business line, such as: call waiting, call forwarding, call screening, call return, call trace, and others.

All SBC basic business lines throughout the state are Enhanced 911 compatible.

Availability: Statewide.

#### 3.2.2.2. Local Consolidated Centrex Services

Local consolidated Centrex services consist of the telephone lines that are located in a common geographical area that share a common service. Where more than one State agency has a need for telephone service in the same community, DGS/TD obtains the service, is the customer of record for the service, pays for the common features and access, and coordinates the implementation of the services for the agencies. See Full Product Descriptions (Rider B) for features list.

Consolidated Centrex locations with dedicated access require station call detail for ease of vendor billing usage to the originating agency. The use of a dedicated access with Primary Rate Interface (PRI) termination to the network provides the station ANI to the contractor enabling station detail billing to the agency.

DGS/TD contracts with Verizon for PRI service from two CentraNet locations: Long Beach and San Bernardino. This service provides dedicated access to the network with originating station call detail (ANI) for agency billing purposes.

In the major metropolitan areas, DGS/TD manages Consolidated Centrex services. For example, in Sacramento the DGS/TD Consolidated Citywide Centrex encompasses the majority of the metropolitan area with free station-to-station calling within the Centrex.

All Centrex lines throughout the state, which are not designed as internal intercom only, have access to Enhanced 911.

#### 3.2.2.3. Non-Consolidated Centrex Services

Many of these sites are typically managed by governmental agencies outside of the administrative oversight of DGS/TD. Some of these locations are managed by State agencies under delegation from DGS/TD.

In addition to the standard Centrex/CentraNet features, the contract provides the following for both Consolidated and Non-Consolidated Centrex services: Automatic Call Distributor (ACD), ACD/Management Information System (ACD/MIS), Account Codes, Integrated Services Digital Network-Basic Rate Interface (ISDN-BRI), Customized Local Area Signaling Services (CLASS), statewide Centrex features, and automated user controlled moves and changes.

### 3.2.2.4. Integrated Services Digital Network

Integrated Services Digital Network (ISDN) is provisioned on a measured business service, which allows customers digital service over a single wire pair. The configuration is also known as Basic Rate Interface (BRI).

Availability**:** Available with some limitations.

### 3.2.2.5. Account Codes

The contractor provides account code features, which allows a Centrex or Plain Old Telephone Service (POTS) station user to enter an identification number after dialing a telephone number outside the Centrex group. Customers may select one of the following account code options for the system:

- Non-Forced, Non-Verified – Provides station users the option of entering an account code.
- Forced, Non-Verified - Dialing party is required to enter an account code.
- Verified Forced - Station user is required to enter an account code, which is validated by the switch prior to call completion.

Station lines equipped with the account code feature, the dialing party may enter various account codes outgoing call types, local, 7 & 10 digit toll, 411 and 555-1212 calls, 700, 900, 976 and 950 calls, InterLATA 0+ and 0-, IntraLATA 0+ and 0- in Digital Multiplex System (DMS) 100 only.

Availability: Account codes are available in SBC territory. For account code availability in other territories, see Verizon territory.

### 3.2.2.6. Private Branch Exchange Trunks

Private Branch Exchange (PBX) trunks are provided on a statewide basis in all industry standard configurations.

Availability: Statewide.

### 3.2.2.7. SuperTrunk

SuperTrunk service is a high capacity (DS1) facility to provide digital channels to CPE PBX or similarly capable systems. SuperTrunk combines DID Trunk service with Centrex functionality, and allows for the creation of separate trunk groups within or across the digital channels.

Four trunk group options are available:

- Two-way voice
- In-only voice
- Out-only voice
- Switch 56 data

SuperTrunk provides a selection of standard, optional, and associated features to the trunk groups, with the minimum configuration consisting of one SuperTrunk termination, one HiCap, and one trunk group. See Full Product Descriptions (Rider B) for features list.

Availability: Statewide from DMS and AT&T Class 5 Digital Central Offices (5ESS). Some feature limitations and restrictions exist between central office switch types (DMS and 5ESS).

### 3.2.2.8. Voice Mail

Voice Mail is a service that provides a complete range of user features, fully integrated with Centrex service. Call Management Voice Mail provides dedicated ports and storage, with web based menu-driven software for mailbox administration. See Full Product Descriptions (Rider B) for features list.

Three types of voice mail service are offered:

- Voice Mail-Series 200 is a port based voice mail service designed for locations needing a minimum of 200 voice mailboxes at that location. Networked Voice Mail is available for Series 200 users, enabling statewide voice mail messaging.
- Voice Mail-Series 100 is designed for those customers who want their mailbox to be connected directly to their telephone number. This allows calls to be forwarded to their Voice Mail box when their telephone line is busy or unanswered. Messaging between other voice mail users on the same system is included.
- Voice Mail-Series 50 is designed for those customers who need a mailbox number that is different from their normal business

telephone number. Series 50 can be used as a direct-dial messaging line without disturbing the main business line.

Availability: Series 50 Voice Mail is available on a statewide basis. Series 100 Voice Mail is available where integration capabilities exist in SBC, Verizon, and other LEC territories. Series 200 Voice Mail is available in any site, statewide, where a minimum of 200 lines using voice mail is required.

### 3.2.2.9. Customer Local Area Signaling Services

Customer Local Area Signaling Services (CLASS) is a technology defined as an enabler for enhanced central office based network and line side features associated with advanced network signaling systems.

CLASS features are detailed in the line side services, Centrex, and business access lines.

Availability: Refer to the table of line side services for business access and Centrex lines.

### 3.2.2.10. Interactive Voice Response

An interactive voice processing application provides callers specific information or accepts an order based on specific caller input. Interactive Voice Response (IVR) systems are classified as Simple, Complex, or a Dynamic Interactive Voice Architecture (DIVA).

Availability: Call router and IVR capabilities are available in locations where technical capabilities exist and market conditions warrant.

### 3.2.2.11. Automated Attendant

Automated attendant automatically answers incoming calls within a predefined number of rings, without the assistance from a live attendant. Callers may then reach an extension by following prompts, or other services, such as announcements for voice menu choices. Automated attendants may process multiple calls simultaneously.

Availability: Refer to availability subsection of 3.2.2.10

### 3.2.2.12. Voice Forms

Voice forms allow business users to collect information from callers over the telephone. A series of questions is played to a caller who responds to each question in sequential order. Once the

information is collected, it can be retrieved and transcribed to meet individual requirements.

Availability: Refer to availability subsection of 3.2.2.10

### 3.2.2.13. Fax on Demand

Caller may request fax delivery of information to a specified fax number. Customer purchases storage as needed.

System may issue reports to the customer via fax delivery.

Availability: Refer to availability subsection of 3.2.2.10

### 3.2.2.14. Fax Reply

Fax reply is a multimedia option that allows the user to create and retrieve fax information by selecting fax items from a voice menu. Fax information can be sent to the caller on the same call or the caller is prompted for a callback number to which the fax can be sent after the call has been disconnected.

Availability: Statewide.

### 3.2.2.15. Automatic Call Distribution

Automatic Call Distribution (ACD) distributes calls through station lines to a designated group of answering positions. A variety of standard and optional ACD group, agent, and supervisor features are available to meet the specific needs of the individual call center.

Availability: Available with some limitations.

### 3.2.2.16. Announcements/Music in Queue

Announcement/Music in Queue is provided under a separate contract agreement. Central office based access port is provided for customers that subscribe to the Music in Queue.

Availability: In a limited number of provisioned ACDs.

### 3.2.2.17. Management Information System

The Management Information System (MIS) service provides real-time ACD monitoring and comprehensive historical reporting for active call centers. It provides up-to-the-minute call center performance evaluation data, historical reporting for in-depth analysis of the call center's overall performance, and for projecting future trends.

Availability: Available with some limitations.

### 3.2.2.18. Computer Interface

The Northern Telecom systems CompuCall feature is provided and employs the Switch Computer Application Interface (SCAI) open architecture standard to connect the Central Office switch with the customers' general-purpose business computers for the exchange of information to enhance call processing. Representative CompuCall applications are:

- Coordinated Voice and Data - Provides an agent a screen of information about a caller concurrently with receipt of call.
- Voice Processing Integration - Uses IVR systems and Voice Response Units (VRU) to obtain additional information about callers and direct them to the appropriate agent.
- Third Party Control - Allows agents to control calls, such as holding, consulting, transferring, and conferencing all through their computer keyboard commands.

Availability: Available with some limitations.

### 3.2.2.19. Intelligent Call Routing

Intelligent Call Routing (ICR) provides call-by-call routing of toll free calls to multiple, geographically dispersed ACD groups to create a virtual call center network. ICR routes calls and consolidates management information at the network level; creating enterprise-wide call distribution capabilities. The service offers features such as:

- Pre and Post Call Routing - Routing intelligence applied before the call is sent to the destination is referred to as pre-routing. Intelligent transferring between agent groups or into, or out of, VRU is referred to as post call routing.
- Skills Based Routing - Ability to route calls to a particular ACD group or agent based on predefined skill sets required to handle incoming call.
- Additional Routing Based On:

  - Dialed number.

  - Automatic Number Identification (ANI).

  - Location of caller.

  - Caller entered digits.

  - Time of day, day of the week.

  - Cost of call.

Availability: Available with some limitations.

#### 3.2.2.20. Network Automatic Call Distributor

Network Automatic Call Distributor (NACD) resides on a Centrex platform, and provides central office based call distribution and queuing functions for call centers. NACD enables an ACD customer with multiple call center sites served by one or more central offices to have their sites tied together via the local loop and inter-office Signaling System 7 (SS7) network to create one "virtual" ACD.

Availability: Available with some limitations.

#### 3.2.2.21. EDD Intelligent Call Routing

Employment Development Department's (EDD) ICR platform creates a virtual network call center by providing call-by-call routing to multiple geographically dispersed central office ACD agent groups. Title to all hardware, as well as ownership and/or licenses for software, is provided for EDD's use through the joint vendor (SBC and MCI) platform agreements. Usage is billed on an incremental per-minute rate based upon EDD's commitment to a specific annual "Minimum Volume Requirement" (MVR). Consolidated MIS reporting is provided with integrated near real time and historical call center and network management reporting for a true enterprise network call center view and optimization. ICR can be used with 800 Enhanced Call Routing (ECR), thus service is available throughout U.S.

Availability: Available with some limitations.

### *3.2.3. Data Services*

Data infrastructure supports individual State and local agencies. The infrastructure consists of an Asynchronous Transfer Mode/Synchronous Optical Network (ATM/SONET) backbone network. This design combines Frame Relay and ATM services with Optical Carrier (OC)/SONET service to provide an integrated infrastructure to transport data. The ATM/SONET backbone serves the State's need for:

- Frame Relay
- ATM
- Frame Relay-to-ATM Interworking
- Selected Point-to-Point Circuits

Figure 3.2.3 shows the ATM/SONET Backbone Network.

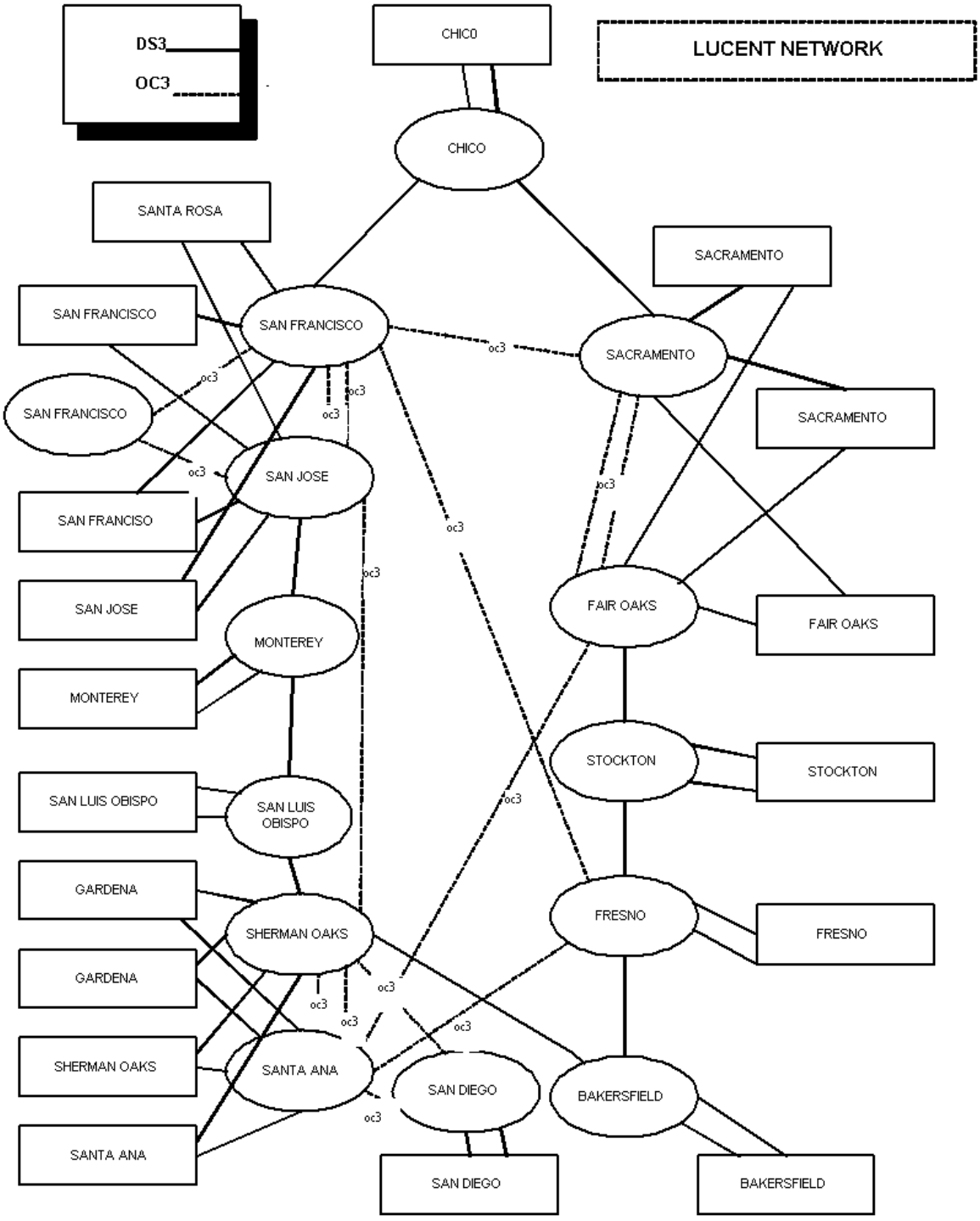



Figure 3.2.3 ATM/SONET Backbone Network

- **Core Network Management** – This management system allows DGS/TD to view the integrated network. Partitioned network management information views can be provided to agencies as needed.
- **Network Aggregation Points** - Aggregation Points (AP) in Sacramento, San Jose, San Francisco, Sherman Oaks, Fair Oaks, San Diego, Chico, Stockton, Fresno, Bakersfield, Monterey, and San Luis Obispo connect to the major AP using DS3 and DS1 transport to complete the statewide network. Data traffic is aggregated onto ATM switches at the AP for local data delivery or long-haul data transport on the SONET ring.
- **Centralized Network Management** - A single point-of-management includes not only the CALNET ATM/SONET backbone network, but also all data applications.

#### 3.2.3.1. Dedicated Services

Dedicated Services are provided by a variety of products. The following products are covered by this service identifier and unless noted separately, all services contain the following elements: planning, applicable design, engineering, testing, termination, and installation, where applicable.

##### *3.2.3.1.1 Analog Service*

A voice grade service that supports point-to-point or multi-drop applications.

Availability: Statewide.

##### *3.2.3.1.2 DS0 Service*

DSO service supports point-to-point digital data circuits. Digital multipoint services will support multipoint data applications with DS0 access and/or T1 local access.

Availability: Statewide.

#### *3.2.3.1.3 DS1 Service*

DS1 service is a dedicated point-to-point private digital non-switched service used for both voice and data communications. DS1 can be provisioned on fiber, copper, or mixed media. Two formats are offered:

- Basic (full 1.544 Mbps)
- Channelized (multiplexed DSO channels — 64 Kbps each)

Availability: Statewide.

#### *3.2.3.1.4 DS3 Service*

DS3 is a dedicated point-to-point, full duplex, digital private line service that operates at 44.736 Mbps. DS3 may be clear-channel or channelized.

Availability: Available with some limitations.

#### *3.2.3.1.5 Optical Carrier Service (OC-X)*

Optical carrier service is available at OC1, OC3, OC3-c (Concatenated), OC12, OC48, and OC192. The service is provided over SONET and is redundant, diverse, and has advanced network management and maintenance capabilities.

Availability: Available with some limitations.

#### *3.2.3.1.6 Gigabit Ethernet Metropolitan Area Network*

Gigabit Ethernet Metropolitan Area Network service is an intraLATA dedicated high capacity channel limited to the transport of digital signals between customer premises at a discrete bit rate of 1 Gigabit per second (Gbps) in Ethernet format, and is available in a point-to-point (node-to-node) configuration. It enables the connection of two or more Local Area Networks (LANs) at the LAN backbone speed within the same LATA. It will link without signal loss between locations at a maximum distance of 31 miles.

Availability: Available with some limitations.

### 3.2.3.2. Extended Dedicated Services

Extended dedicated services is for interstate dedicated services.

Availability: Nationwide.

#### 3.2.3.3. Synchronous Optical Network Ring and Access Services

Synchronous Optical Network (SONET) ring and access services provide for high bandwidth (T1 and above) communication paths on dedicated, fiber-based, self-healing rings or as point-to-point network configurations. All traffic is carried on SONET, and is synchronous.

Service hand-offs on SONET are synchronous at OC3-c, OC-12, OC-48, or OC-192. Asynchronous services at T1 and DS3 are carried over SONET in 51 Mbps STS/1 packages. SONET services include the following:

- SONET Dedicated Ring
- SONET Circuit Service

A SONET ring is composed of two fiber strands, connected at one or more customer premises and at one or more serving wire centers with add/drop multiplexing nodes. Nodes are equipped with access ports that define the facility interfaces (T1, DS3, OC3-c, OC-12, or OC-48).

Availability: Only available where facilities and equipment exists. If special routing is required, or a gap exists in a ring, special construction may be ordered.

#### 3.2.3.4. ISDN Basic Rate Interface

Integrated Services Digital Network (ISDN) offers integrated voice, data, and video transmission over a single phone line, with the quality and increased data speed of digital transmission.

The following limitations apply to ISDN:

- Available in DMS-100 or 5ESS central offices only.
- Digital quality line must be available at the customer's premises.
- Essential service lines are not available due to technical limitations.
- 30,000 cable feet distance limitations from central office.

Availability: Available with some limitations.

#### 3.2.3.5. Primary Rate ISDN

Primary Rate Integrated Services Digital Network (ISDN) is a high speed, multi-purpose switched access digital interface. The service

is provided through standard T1 (1.544 Mbps) point-to-point private-line facilities.

Primary Rate Interface (PRI) bearer channels can be simultaneously used for:

- Circuit switched voice at 56Kbps.
- Circuit switched data:
  - 56Kbps outside a PRI serving arrangement.
  - 64Kbps within a PRI serving arrangement or from a PRI Central Office to customer premises.
- Optional packet switched data.

Availability: Available with some limitations.

### 3.2.3.6. Switched 56

Dial-up switched digital service offers both narrowband services (increments of 56/64 Kbps) and wideband services (increments of 128 Kbps up to 1.544 Mbps.) Switched 56 provides dial-up access digital bandwidth through a local access line on a cost per minute basis. Unlike private lines, Switched 56 is only billed for usage. Outbound Switched Digital service offers narrowband services of 56/64 Kbps.

Availability: Nationwide.

### 3.2.3.7. Virtual Point of Presence – Dial Access Service

Virtual Point of Presence – Dial Access Service (VPOP-DAS) provides dial-up access via virtual networking over frame relay or cell relay networks.

VPOP-DAS does not include the frame relay or ATM User-Network-Interface (UNI) that connects the equipment at the customer premises to the frame/ATM network.

VPOP-DAS consists of a modem port (which supports ISDN and V.90 and Radius authentication) a local telephone number in each coverage area, a single frame relay port and connection per LATA, and a customer network management web-based tool to pull reports on network performance.

Availability: Statewide.

### 3.2.3.8. Frame Relay and Asynchronous Transfer Mode Data Services

Frame Relay and Asynchronous Transfer Mode (ATM) are high speed, wide area, data transfer services which allows for the

transfer of variable length frames, or fixed length cells across a wide geographical area.

Frame Relay features:

- UNI access at speeds of 56 Kbps, T1 (1.536 Mbps), and T3 (45 Mbps)
- Network-to-network interface at speeds of T1 and T3.
- Alternate routing within the network to recover from any transport failures.
- Any Committed Information Rate (CIR), up to the access speed, and available per location.
- Interworking with ATM service.

Features of the ATM services include:

- Multiple Service Classes.
- Multiple Interface Rates (DS1, DS3, and OC3)
- Virtual Path Connection (VPC)
- Virtual Channel Connection (VCC)
- Alternate routes within the network to recover from any transport failures.

The following service classes are available:

- Constant Bit Rate (CBR).
- Variable Bit Rate (VBR).
- Unspecified Bit Rate (UBR).

Availability: Statewide.

#### *3.2.3.8.1. Fixed Rate Permanent Virtual Circuits*

Agencies subscribe to a fixed amount of bandwidth, regardless of the volume of Permanent Virtual Circuits (PVC) traffic. PVCs that extend between LATAs will incur a charge based only on CIR selected, not usage.

#### *3.2.3.8.2. Frame Relay to ATM Interworking*

The service-interworking feature allows frame relay equipment at one site to communicate with another site that has ATM equipment. It also allows an end-to-end frame relay connection to be transported over ATM/SONET network. In the absence of network congestion, Discard Eligible frames are treated the same as CIR frames. In the

presence of network congestion Discard Eligible frames may be discarded.

#### *3.2.3.8.3. Turn-key Network Management View*

Service management software is the management platform for the ATM/SONET backbone network. This software provides three options for authorized users to view the network.

- Option 1: X-Terminal service.
- Option 2: Simple Network Management Protocol (SNMP) service.
- Option 3: Web-Based service.

#### *3.2.3.8.4. Network Partitioning*

Different types of partitioning allow access to a full range of network resources. These capabilities are selectively assigned to those managing the network.

### 3.2.3.9. InterLATA Frame Relay (Primary & Back-Up), and Asynchronous Transfer Mode Data Services

This service provides connections from frame relay and ATM data services that originate and terminate in different LATAs within the state. Network facilities are provisioned over a SONET based network.

Customers can only purchase InterLATA frame relay (back-up) to provide back-up services for InterLATA frame relay (primary), which is purchased under this agreement.

Availability: Available with some limitations.

### 3.2.3.10. Extended Frame Relay

Extended Frame Relay is for interstate Frame Relay applications.

Availability: Available with some limitations.

### 3.2.3.11. Managed Frame Service

Managed Frame Service (MFS) provides an integrated multi-vendor, single point-of-contact service for network design, implementation, installation, network management, and performance monitoring.

MFS offers:

- **Network Design Service** - Tailored comprehensive WAN solutions for each location based on traffic load, usage patterns, transport requirements, and economics.
- **Customer Premise Equipment** - Cisco and Kentrox platforms are available to agencies on a direct purchase or leased basis.
- **MFS -** Provides DGS/TD responsive, integrated WAN and router networks, plus the ability to detect, report, analyze, and correct network problems. The networks are monitored in real time, using virtual connections between the State's network CPE and the contractor's network management facility that provides dedicated network monitoring access and back-up network monitoring connections. Specific standard services are:

  - 7x24 Real Time Network Monitoring
  - Fault Isolation
  - Software Support
  - Configuration Management
  - Performance Analysis
  - Hardware Maintenance

Availability: Available with some limitations.

### 3.2.3.12. Managed Extended Frame Relay

Managed Extended Frame Relay service provides management services for interstate Extended Frame Relay service. There are two types of managed services:

- Full turn-key.
- Customer installed CPE.

Availability: Nationwide.

#### *3.2.3.12.1. Turn-Key Network Management View*

The same contractor provided network management capabilities are available for ATM services. The partitioning options described in the previous section also apply to ATM.

### 3.2.3.13. Virtual Private Network

Virtual Private Network (VPN) provides the customer with dedicated access services or host connectivity using the contractor designated network.

#### *3.2.3.13.1. IP Link*

VPN Internet Protocol (IP) Link provides connectivity for remote users in a remote node environment who need access to Transmission Control Protocol/Internet Protocol and Internet Packet Exchange (TCP/IP and IPX) based applications. No Internet connectivity is provided through this service. This is a private network service and therefore does not touch the Internet.

Availability: Nationwide.

#### *3.2.3.13.2. SafeReach IP*

VPN SafeReach IP is a remote access solution utilizing tunneling technology. It enables customer's users to connect with TCP/IP attached customer hosts by means of customer provided IP client software. The dedicated access to the customer network is provisioned via a clear channel T1.

Availability: Nationwide.

#### *3.2.3.13.3. SafeReach for NT*

SafeReach for NT is a dial access VPN solution utilizing Point-To-Point Tunneling Protocol (PPTP) and Microsoft Point-to-Point Encryption (MPPE) technology. It is suited for customer's users requiring access to LAN based data via a public IP network using an encrypted, client-to-gateway tunnel initiated and controlled by the end user.

SafeReach for NT solution will allows for the utilization of Microsoft MPPE encryption, in either 40-bit or 128-bit.

Availability: Nationwide.

#### *3.2.3.13.4. Internet Connect*

VPN Internet Connect enables customer validated remote users utilizing customer or user provided IP client software to dial into a contractor PPP (Point to Point Protocol) server via those contractor points of presence identified in contractor's Phone Access Lookup (PAL) utility and connect with the Internet. The rates apply to asynchronous dial connections with transmission speeds of 300 bps to 57.6Kbps (depending upon availability) through an Internet Connect Network Address.

Availability: Nationwide.

### *3.2.3.13.5. Transaction Services*

Transaction services are defined as data network services that allow the customer to establish sessions for the data transmission of transactions between remote locations and a customer host. A transaction is defined as a session of twelve (12) seconds or less in duration ("Initial Seconds" a.k.a. "Init."); for sessions exceeding twelve (12) seconds, customer will be billed for additional time in one (1) second increments ("Each Continuations Second" a.k.a. "Cont.") during the same virtual circuit connection. Unless otherwise stated, Transaction Services access is available at speeds of up to 2.4 Kbps.

Transaction services networks contain access equipment and ports that are dedicated to transaction services only. Routing intelligence is distributed to each node in the Transaction services network, and enables the path to be built directly to the destination host.

Transaction Services access methods:

Contractor will provide, as available from Inter-exchange telephone companies, asynchronous or synchronous 1-800 services for routing of transactions from locations within the U.S. to a customer host connected to the contractor network. 1-800 dial access is available at speeds up to 9.6Kbps.

- **Cellular Digital Packet Data (CDPD):** The contractor provides, as available from CDPD carriers, CDPD access for routing transactions from each location where the CDPD carrier has coverage in the U.S. to a customer host connected to the contractor network. CDPD access is available at speeds up to 19.2 Kbps.

  CDPD access requires one IP address for each customer CDPD modem, which is provided by the contractor.

- **Feature Group B (950) Dial Access (FGB):** The **c**ontractor provides, as defined and made available from local-exchange carriers, asynchronous or synchronous dial Feature Group B services for the routing of transactions from locations within the U.S. to a customer host connected to the contractor network.

- **Virtual Private Line (VPL):** The contractor provides, as available from selected local-exchange telephone companies, gateway access to contractor network via ISDN-D Channel service for the routing of transactions from locations within the U.S. to a customer host

connected to the contractor network. ISDN-D Channel is available at speeds up to 9.6 Kbps.

Availability: Nationwide.

#### *3.2.3.13.6. Remote LAN Dial*

Remote LAN Dial (RLD) provides remote node connections to LAN environments. RLD allows a customer's remote user to connect to their enterprise network and access applications.

Availability**:** Nationwide.

### 3.2.3.14. Extended ATM Services

Extended ATM services for Interstate ATM applications.

- DS-1 (1.544 Mbps)--Unchannelized
- nxDS-1 (1.544 Mbps)
- DS-3 (45 Mbps)
- OC-3 (155 Mbps)
- Service Classes: Constant Bit Rate (CBR)
- Variable Bit Rate--Non Real Time (VBR-NRT)

Applicable ATM Adaptation Layers:

- AAL 1
- AAL 5

Availability: Nationwide.

### 3.2.3.15. Digital Subscriber Line

Digital Subscriber Line (DSL) service provides high speed, non-switched, digital transport remote Internet or host access connectivity over customer's existing copper loop. Currently, three versions are offered:

- **Asymmetrical** with 1.544 Mbps downstream and 384 Kbps upstream.
- **Asymmetrical** with 128Kbps up and 384 Kbps down.
- **Symmetrical** at 384 Kbps in both directions.

These versions come standard with Unspecified Bit Rates (UBR), Quality of Service (QoS) options for Variable Bit Rate (VBR), and Constant Bit Rate (CBR) performance.

Availability: Available with some limitations.

### 3.2.3.16.Video Conferencing

Most agencies use either switched services or dedicated video conferencing. Switched services are predominantly provided using standard ISDN dial up lines and inverse multiplexing to provide the necessary bandwidth. Dedicated video conferencing in the State uses fixed bandwidth from the agency to the service provider for connections to other locations using a preset arrangement with the service provider. The arrangement is flexible to allow connections to other video conferencing networks outside of the service provider's network. The contractor provides for multiple simultaneous connections on a bridge and the necessary protocol conversions for connecting dissimilar equipment.

### 3.2.3.17. Xstream Services

Xstream offers a completely bundled X.25 and 3270 data networking solution, which include all components necessary for remote users to dial up applications, through a nationwide 800 number, residing on corporate host computers and LANs with a local call.

Xstream Air provides the ability to access Xstream services through a users cellular account by providing specific access numbers for wireless facilities, and requires no special menus or changes to corporate applications.

Xstream services bundles various components into a single per minute charge. These components are:

- Asynchronous dial access (via a modem).
- A host interface (X.25 or IBM) within the MCI data network.
- A private line network connection linking the customer's host computer to the host interface.

The number of simultaneous users, or virtual circuits, supported on Xstream25 and Xstream3270 corresponds to the line speed of the host network connection.

Availability: Nationwide.

### 3.2.3.18. Security Standards

Security Standards are as follows:

- **Physical Security Standards -** All State telecommunications equipment is housed in secure and seismically braced buildings. To enter these locations, users must have secure key access cards. All locations have remote security alarm

systems, which are monitored 24 hours a day. All employees must wear a photo ID at all times when at company locations.

- **System Security Standards -** Access to all State network elements, operations support systems, and databases require a secure ID card as well as a logon and password.

Security management is to control access to network resources according to security policies, and is appropriately the responsibility of the State's security administrators.

### 3.2.3.19. Disaster Recovery and Emergency Operations

A Disaster Recovery plan has been developed that involves DGS/TD working directly with the contractor. The process has been tested and documented.

The contractors and DGS/TD have established a set of criteria for defining when notification of a network failure should be broadcasted. The level of action will vary based on the seriousness and nature of the event. The contractor's action can range from a pager broadcast notification to DGS/TD monitoring recovery efforts from the contractor's network management center. The contractor has provided DGS/TD with access to a workstation, phone, and dial connection at the network management center for the purpose of oversight.

### 3.2.3.20. Fault Recovery

Fault Recovery is facilitated through a built-in redundancy method, which includes network surveillance, performance monitoring, and operations support seven days a week, 24 hours a day.

### 3.2.3.21. Customer Service

Customer service is coordinated through a single point-of-contact for all orders, service, and billing issues through the Customer Service and Support Center (CSSC).

### 3.2.3.22. Public Access and Electronic Provision of Service

Some customer agencies require public accessibility to Web servers, or Internet access for authorized employees to provide public services electronically, but on a separate network from the State's internal network. The contractor provides contract access through the calnetinfo.com web site and network performance information with web sites such as CARES.

### *3.2.4. Other Services*

#### 3.2.4.1. Building Wiring Installation Services

The contractor makes wiring support services available to all State agencies. Building wiring to Centrex stations is included as part of the State of California monthly Centrex rate. In addition, other building wiring support services are provided throughout the state. State agencies have a wide range of service options, including:

- Installation of building wiring, connecting telephone instruments, and testing network service for Moves, Additions or Changes.
- Extensive building rewiring on a project basis to support the growing demand for enhanced information technology infrastructure.
- Construction of Local Area Networks (LANs), video distribution, voice, alarm, and control systems.
- Installation of backbone and distribution wiring.
- Links between passive network-enabling devices and equipment housed in technology rooms.
- Connection of interfaces to building entrance terminals and common network demarcation points.
- Testing, auditing, and documentation of wiring for State buildings.
- Extending demarcs from Minimum Point of Entry (MPOE).

Wiring is installed according to industry standards, using fiber, shielded and unshielded twisted pair, and coax. Cable used for LANs conforms to the stringent LAN Cable Certification Program of Underwriters Laboratories, Inc.

State owned building wiring is made available to the contractor to support service provided under this contract, for the term of this contract, subject to spare capacity.

The contractor also provides a set of standard installation intervals for standard service types. These intervals are published, and the contractor is expected to meet or exceed these intervals for new installations.

State agencies are requested to follow cabling recommendations published in the State Telecommunications Management Manual (STMM).

### 3.2.4.2. DGS Sacramento Fiber Loop Facilities

DGS/TD currently owns an optical fiber loop facility in the Sacramento metropolitan area. DGS/TD retains ownership and management of the fiber, but it is maintained and operated by the contractor. The contractor's primary responsibility is the troubleshooting, repair and re-arrangement of the loops outside plant cable and connections. This maintenance/repair activity is done on a "best effort basis".

The DGS Downtown Fiber Loop is a "passive" optical network, primarily dedicated to customer agencies requiring a "dark fiber" interface. Bandwidths of between 10 Mbps and 10 Gbps are possible due to the decreased distances in the loop compared to other metropolitan networks. The loop is constructed of 72-fiber cable, consisting on both multi-mode and single mode fiber strands. The cable is arranged to form a continuous loop connecting 12 of the major State owned buildings. An additional 14 buildings are attached to the loop in a "hub and spoke" arrangement. (See Figure 3.2.4.2) The fiber loop and spurs are typically routed into a building's main telephone room, and terminated within secure fiber optic patch panels. As the fiber loop in run primarily in State controlled spaces and ducts, there has been historically an extremely low incidence of failure requiring repair.

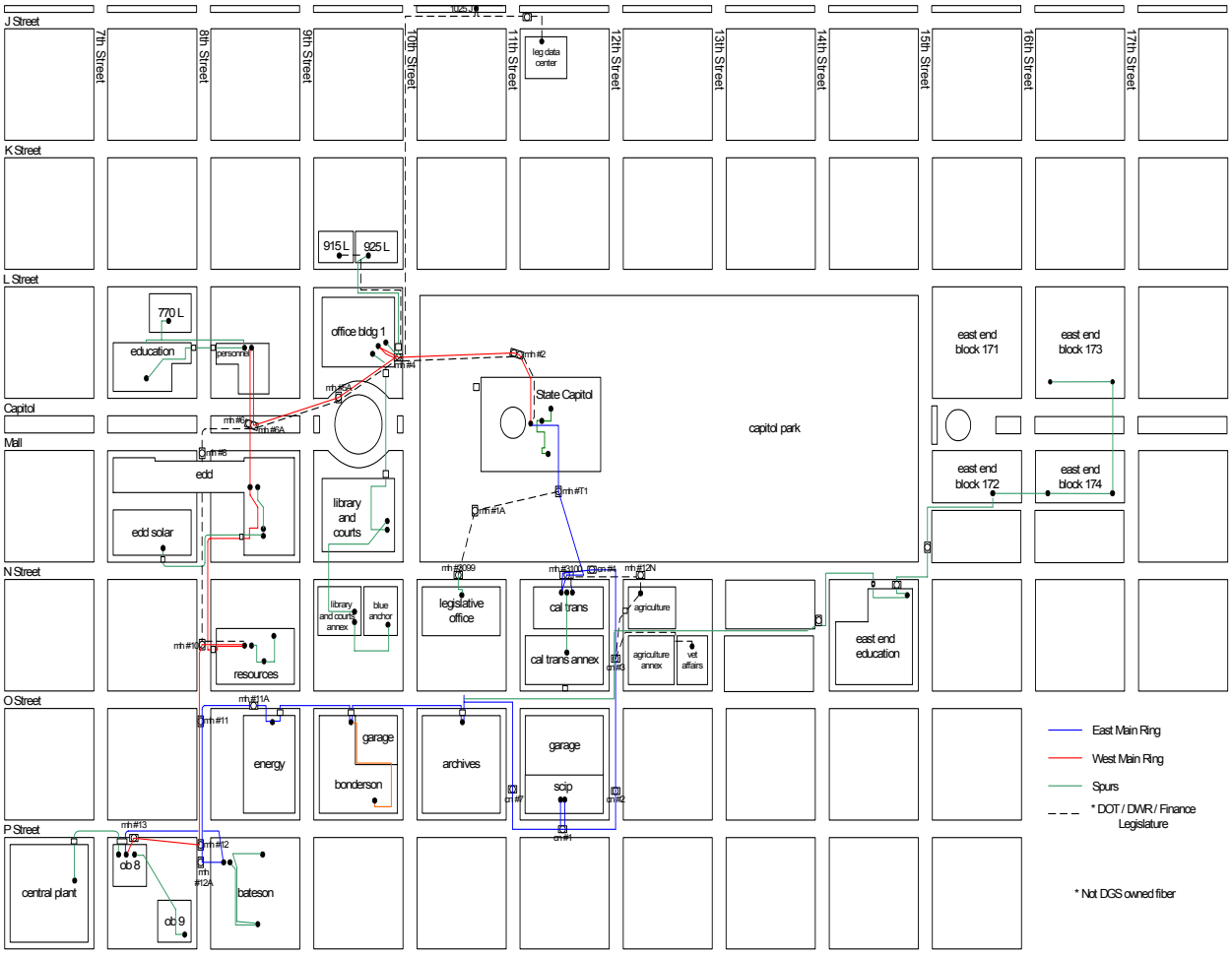



Figure 3.2.4.2 DGS Downtown Fiber Loop Facilities

Applications utilizing the fiber loop range from video, broadband, Passive Optical Networking (PON) to alarm and environmental control systems. Requests for fiber assignments are reviewed and approved exclusively by DGS/TD. The division maintains the records and documentation supporting the fiber loop facilities.

Additional information regarding the Downtown Fiber Loop is available in the STMM Section 0703.0 Rev C. http://www.td.dgs.ca.gov/STMMOn-line/default.htm

#### 3.2.4.3. DGS Outside Plant Copper Facilities

DGS/TD owns conduit structures and copper cabling in Los Angeles, San Francisco, and Sacramento. The structure in Sacramento is extensive and used by the contractor for services other than just telephone access. It is comprised of approximately 36,000 distributed pairs of Primary Interexchange Carrier (PIC) cable and is protected at the State Carrier Interface Point (SCIP), 1115 P Street, Sacramento, only. This copper plant services approximately 23 State buildings in the downtown area. The contractor operates and maintains these conduit structures and the telephone cabling contained within, and augments the structure at their expense.

#### 3.2.4.4. Lease Back of State Property

Contractor owned equipment is installed on State property at 1115 P Street, 630 Sequoia Pacific Blvd., and 2415 1st Ave, Sacramento. DGS, Real Estate Services Division, is leasing the space to the contractor at a fair market rate. This allows the contractor to continue to operate the equipment in its present location.

## 3.3. Optional Customer Premise Equipment and Support Services

### *3.3.1. Equipment*

The contract provides an option for agencies to obtain the necessary customer premise equipment (CPE), required to support Voice, Data and Video Conferencing services. The contractor provides support of proprietary telephone sets that work on DMS 100 switches, electronic business sets, and plain old telephone instruments as well as video conferencing and data networking equipment. Delivery timeline SLA's are defined on Form 65.

Equipment includes but is not limited to the following:

- Electronic Business Sets (EBS)
- Wide Area Network & Equipment Services
- Videoconferencing Systems
- VTEL
  PictureTel
  Polycom
- Lucent ISDN Equipment
- Analog Sets
- Fujitsu ISDN Telephone Sets

- Centrex Attendant Consoles

Refer to the calnetinfo.com website.

### *3.3.2. End User Customer Premise Equipment Support*

This section outlines the support function of the contractor and DGS/TD for activities related to state agency acquisition of telecommunications equipment. Currently the contractor provides a suite of statewide services associated with the above listed equipment.

## 3.4. End User Support

This section outlines the support function of the contractor and DGS/TD for activities related to State agency acquisition of telecommunications services.

### *3.4.1. General*

DGS/TD manages the use of the contract by customer agencies. DGS/TD may also designate some services as non-delegated and require DGS/TD review and approval prior to agency acquisition. DGS/TD may use contractor provided contract management support systems, reports, and periodic random agency audits to monitor and administer contract usage for delegated services.

Refer to Table B for a list of tool and reports.

The contractor provides service provisioning, network operation, maintenance, and client billing for all services without direct State staff involvement. DGS/TD's role in the processes is one of contract management and oversight and as a strong customer advocate in overseeing the outcomes and results.

**Client Representation**

DGS/TD actively represents agencies in resolving issues of business transactions and service performance.

**Information Access**

The contractor provides oversight and management information access designed to allow DGS/TD to meets its responsibilities, including the ability to independently validate contractor provided service performance and fiscal management information. The information access is expected to include both historic electronic data and near real time services status. Some delay in presentation is acceptable, but may be no longer than a few seconds from time of occurrence.

Refer to Table B for a list of tool and reports.

#### 3.4.1.1. DGS Activities

The DGS/TD has broad oversight for State telecommunications. In this role the focus is on telecommunications activities that provide business oversight with emphasis on statewide "economy of scale" impact. Among these activities are:

- Expertise in, and monitoring of, market trends in order to advise State agencies.
- Strong focus on customer needs and knowledge of State agency operational requirements in order to plan for appropriate telecommunications services. This includes consulting assistance to agency staff for support and guidance in the acquisition of telecommunications goods and services.
- A strong customer advocate role to ensure that the State's telecommunications providers continuously provide responsive service to State agencies.
- Ongoing monitoring of contractor performance and customer satisfaction.
- Periodic monitoring of best available industry pricing.
- Expertise in industry-wide trends and best practices in order to provide consulting service to State agencies.
- Expertise to assess operational requirements of State agencies to ensure elimination of operational redundancies and duplication of effort between State agencies.
- Contract management to monitor (and audit) adherence to and effectiveness of the State telecommunications contracts.
- Monitoring of telecommunications law, technology, and market trends in anticipation of subsequent contract development and procurement awards.
- Provide administrative management for contract, policies, directives, standards, and augmentation of new services.
- Review and comment to the Department of Finance (DOF) in response to agency requests for approval of exemptions to existing direction.
- Perform as client agency advocate to ensure the contractor provides effective response to agency requests as stipulated in the contract.
- Respond to service issues beyond the scope of the contract.

- Perform periodic audits of agency bills to ensure accuracy based on the terms and conditions of the contract and to ensure cost effectiveness of service selection for agency application.

#### 3.4.1.2.Contractor Activities

As associated with the defined contracted services, the contractor:

- Provides staff to perform as the principal technical resource for information on pricing, features, and feature interactions/restrictions. This technical staff is available on demand via telephone, or in person, to participate in meetings to answer questions about contracted services. These inquiries may be addressed without an order or Telecommunications service request, standard State form (STD. 20).
- Provides documentation on pricing, features, and feature interactions/restrictions.
- Uses the DGS/TD provided database of Agency Telecommunications Representatives (ATRs) as designated by the customer agencies to have fiscal authority to order service.

### *3.4.2. Planning*

#### 3.4.2.1. Contractor Activities

As associated with the defined contracted services, the contractor:

- Performs overall planning coordination activities related to service implementation.
- Provides customer agency station reviews to optimize the structure and implementation detail for selected contract services.
- Provides, and updates as necessary, a project plan that detail all resources (cost, staff, etc.), scope (tasks), and schedule (with constraints) necessary to implement service.
- Provides information to the agency regarding proprietary equipment that interfaces with enhanced services and must be purchased separately.

#### 3.4.2.2.DGS/TD Activities

As associated with the defined contracted services, the DGS/TD:

- Responds to planning issues beyond the scope of the contract.
- Reviews and approves non-delegated service project plans developed by the contractor.

### *3.4.3. Design*

#### 3.4.3.1. Contractor Activities

As associated with the defined contracted services, the contractor:

- Collects data and conducts end user station reviews and complete associated service request documents.
- Provides design recommendations and critical feature interactions with documentation to the customer agency for review.
- Analyzes agency service requests and determines facility requirements.
- Determines network interconnection requirements of service requests.
- Determines the required functions to perform transmission, distribution, and switching.
- Determines required network management applications and interface requirements.

#### 3.4.3.2.DGS/TD Activities

As associated with the defined contracted services, DGS/TD shall:

- Respond to design issues beyond the scope of the contract.
- Review and approve non-delegated service project design documentation developed by the contractor.

### *3.4.4. Provisioning and Implementation*

Provisioning occurs through customer placement of service orders by electronic means or through submission of STD. Form 20 and Authorizations to Order (ATO). Refer to www.calnetinfo.com for provisioning timelines.

#### 3.4.4.1. Contractor Activities

- Perform all activities associated with the receipt, logging, task identification, scheduling, and completion notification of STD. 20, for State agencies and the ATO for local government users.
- Provide an electronic means of receiving valid service orders from authorized customer agencies.
- Provide a means to validate that customer agencies are authorized to initiate a service request based on the current ATR master file.

- Provide positive acknowledgment of receipt of a valid customer agency service requests.
- Provide status information to customer agencies on the progress of service requests they have initiated.
- Provide DGS/TD with monthly reports of completed service implementation reports that include, at a minimum, a listing of requests (service orders) and the implementation interval for each request.
- Define the necessary interface requirements for existing customer CPE to connect to the contractor provided services.
- Perform a site inspection of customer locations prior to implementation of service to ensure there is an adequate environment for the new service.
- Coordinate the service installation with the identified customer contact. This includes schedule, host, coordinate, and document minutes of coordination meetings as appropriate.
- Establish and publish standard service implementation intervals for customer planning.
- Develop engineering design standards for contractor use of existing State assets where applicable.
- Develop comprehensive implementation plans and schedules that minimize disruption of the customers' telecommunications systems.
- Prepare a site preparation plan that specifies requirements for space, power, air conditioning, humidity control, floor loading, equipment dimensions, and any other special requirements necessary for the provision of service in a customer location.
- Prepare a service acceptance plan that specifies requirements for functional testing, load testing, and cut over testing of contractor provided services.
- Prepare or obtain floor plan(s) showing jack locations, jack numbers (if available), and identify the "Primary Directory Number" next to the appropriate jack location on the floor plan(s).

### 3.4.4.2.DGS/TD Activities

As associated with the defined contracted services, DGS/TD shall:

- Respond to design issues beyond the scope of the contract.

- Review and approve non-delegated services project implementation and documentation developed by the contractor.
- Monitors ongoing facility provisioning and implementation, and prepares management forecasts, planning evaluations and reports.

## 3.5. Marketing Services

The contractor has the authority to market its contract designated services to authorized users consistent with DGS/TD contract management and oversight responsibilities. The contractor is required to submit for approval, a marketing plan that includes a minimum of the following elements:

- Provisions that contract-marketing activities will be limited to currently approved contracted services.
- Provisions that the contractor will not attempt to sell non-contracted services or equipment in direct competition with other services offered by DGS/TD.
- Provision for adherence to guidelines established by DGS/TD with the contractor's input for marketing activities.
- Provision for ensuring marketing brochures and materials for contracted services are approved by DGS/TD prior to distribution.
- Provisions for establishing a forum for joint contractor and DGS/TD market planning.

## 3.6. Training

### *3.6.1. User Training*

The contractor offers the State user training as part of the service order and standard service provisioning process. Training is offered on the customer premises, or optionally the customer may choose off-site training, audio-visual training packets, personal computer based training, or other training opportunities. In addition to individual user training, the State may request training that will enable their own on-site user training programs, or train staff for administration of ACD, MIS, Voice Mail, or other similar enhanced services.

### *3.6.2. General Telecommunications Training*

DGS/TD uses this contract as one of several means of providing DGS/TD and other customer agency staff skills in general telecommunications technical and related business matters.

## 3.7. Network Operations, Maintenance and Management

### *3.7.1. General*

The contractor provides service provisioning, network operation, maintenance, and client billing for all services without direct State staff involvement. DGS/TD's role in these processes is one of contract management and oversight and as a strong customer advocate in overseeing the outcomes and results.

### *3.7.2. Client Representation*

DGS/TD actively represents agencies in resolving issues of business transactions and service performance.

### *3.7.3. Information Access*

The contractor provides oversight and management information access designed to allow DGS/TD to meets its responsibilities, including the ability to independently validate contractor provided service performance and fiscal management information. The information access is expected to include both historic electronic data and near real time services status. Minimal delay in presentation of near-real time service status is acceptable, but may be no longer than a few seconds from time of occurrence.

## 3.8. Invoicing Services

### *3.8.1. Overview*

The contractor provides an individual bill directly to any customer agency authorized to use the contract by DGS/TD. Agencies receive invoices from the contractor via an integrated billing system and/or legacy systems. The integrated billing system has three different media options for obtaining bill detail: CD-ROM, paper, and via the web. The legacy system's media options for obtaining bill detail could be just paper or, in some cases, paper and CD-ROM. Dedicated billing service representatives are available to customers to resolve billing discrepancies.

The contractor's billing system includes:

- Invoice detail by divisions, offices, accounting centers, nodes, or circuits within the department (availability of both consolidated and separate invoices).
- Flexible billing cycles.
- Hierarchy-based invoices.
- Automatic internal bill-back.

- Reference of the State's service request (STD.20) number for related order activity provided by the contractor.
- Call usage reports.
- Legends for all codes and line items.
- Summary reports.
- Itemized listings of monthly recurring service charges and non-recurring charges, as applicable.
- Option for multiple copies of invoices and supporting detail.
- Ability to accommodate new services.

Invoicing for most services are generated through State Integrated Billing System (SIBS). However, some invoicing is generated through legacy systems due to other Local Exchange Carriers (LEC) territories, vendor programming expenses, and subcontracts.

The contractor provides customers with the option to receive monthly billing for contracted services and to pay contractor invoices via electronic transmission following the American National Standards Institute (ANSI) ASCX 12 standard format for telecommunications invoicing.

Usage based service is billed in six second increments or less with no more than an 18 second initial period.

DGS/TD requires that invoices for all contracted services, that are less than 90 days in arrears, not be subject to late payment charges. The State is not subject to monthly minimum usage charges for any contracted service except where specifically approved by DGS/TD.

The contractor provides a toll free number for contracted services billing related questions and/or adjustments. Contractor staff that responds to this toll free number is fully familiar with the contracted service rates and applicable terms and conditions of the contract to ensure effective response to customer billing inquiries.

The contractor provides fraud detection, prompt client notification and corrective action programs to reduce the State's vulnerability to fraudulent activities. This program assists agencies with identifying suspect calling patterns that may constitute abuse or improper use of State telecommunications services.

Under certain special conditions, State auditing and/or investigative agencies (i.e., Bureau of State Audits, Department of Justice, court orders, etc.) require copies of billing records directly from the contractor without the customer agency's authorization and/or knowledge.

By State Administrative Manual policy, agencies are required to retain records and request duplicate copies of bills and supporting detail for as much as four years in arrears.

On behalf of DGS/TD, the contractor collects a contract administrative fee (rate(s) determined by DGS/TD) on contracted services. The fee is included within the amount charged to those agencies obtaining service pursuant to the contract. The contractor remits payment based on the revenue collected for this administrative fee to DGS/TD on a monthly basis.

## 3.9. State Management and Oversight

### *3.9.1. General*

All service provisioning, network operation, maintenance, and customer billing is provided by the contractor without direct DGS/TD staff involvement. DGS/TD provides contract oversight to ensure products and services are provided to the State under the terms of the contract.

- DGS/TD is strongly proactive in overseeing SLA compliance, network design, utilization, outage restoration, and maintenance.
- DGS/TD actively represents customer agencies in resolving the following issue:
    - Network performance
    - Provisioning
    - Diversity
    - Billing
    - Project

### *3.9.2. Contractor Provisioning Performance*

Contractor provisioning performance is evaluated based on, but not limited to, the following:

#### 3.9.2.1. Voice Services

- Routine orders submitted for contractor processing that involve less than 48 lines or 24 business sets, and not involving site work, shall be completed by the end of the next business day. This includes ISDN and Switched 56 KBPS services.
- Routine new 800/888 service orders submitted for contractor processing shall be completed by the end of the next business day.
- Routine Calling Card orders submitted for contractor processing shall be completed and resultant cards shipped within 5 business days.

- User on-line provisioning, where available and exclusive of site work, shall be implemented within 1 hour of posted changes and additions.

### 3.9.2.2. Site Work

- Routine orders submitted for contractor action involving 48 Lines or less shall be completed within 3 business days or when requested by the agency, whichever is later. This activity shall run concurrent with the service provisioning activity
- Orders requesting expedited contractor action involving 48 lines or less shall be completed within 2 days, including holidays and week-ends.

### 3.9.2.3. Voice Service Project Work

- All voice service provisioning that includes site cable additions, enhanced services (ACD, etc.), CPE installations, or exceeds the above defined scope and detail shall be handled as projects. The contractor shall make an initial response to a project level service request within 3 working days. This response is expected to either result in a quoted schedule for the actions, or to offer an appointment within 5 working days for planning the project detail.

### 3.9.2.4. Private Line Service

The required private line services provisioning response times from receipt of order are as follows:

- DS0/T1 private line service to Main Point of Entry (MPOE) demarc shall be completed within 10 working days or the agency requested date, whichever is later. Services ordered with authorized expedite charges shall be completed within 5 working days.

### 3.9.2.5. Private Line Service Project Work

- All private line services provisioning that includes site cable additions, enhanced services, CPE installations, or exceeds the above defined scope and detail shall be handled as projects. The contractor shall make an initial response to a project level service request within 3 working days. This response is expected to either result in a quoted schedule for the actions, or to offer an appointment within 5 working days for planning the project detail.

#### 3.9.2.6. Performance Deficiencies

Exceeding the defined provisioning time intervals, or project agreement schedules, shall be classified as maintenance MTTR failures of either minor or major faults as defined below. These shall be subject to the appropriate service credits as a contractor consequence.

### *3.9.3. Contractor Fault Management Performance*

Maintenance performance shall be associated with contract cost assessments as follows: Note: Service credits shall be issued to each affected user, and shall be calculated by application of service rates to the total quantity of impacted services, or to historically estimated usage as appropriate.

The definition of fault types and contractor responses are as follows:

- **Mean Time to Respond to Repairs (MTRR)** shall be defined as time required to respond back to a problem reporting client, or to DGS/TD for total service losses, with information on the corrective actions being taken, and the estimated time for restoration of service. When used as a maintenance performance benchmark MTRR shall be applicable to individual fault occurrences.
- **Mean Time To Repair (MTTR)** shall be defined as the time required to correct a fault or to fully restore service. When used as a maintenance performance benchmark MTTR shall be applicable to individual fault occurrences.
- **Minor** service failures shall be defined as the loss of a single service type to a single user at a site, or a failure of a single redundant component in a system.
- **Major** service failures shall be defined as a loss of multiple service types to a single user at a site, or the loss of a single service type to multiple users at a site.
- **The first level catastrophic failures (Cat 1)** shall be defined as the total loss of all services at a site or building complex, or the total failure of an Enhanced Service (ACD, etc.) at a site.
- **The second level catastrophic failure (Cat 2)** shall be defined as a total failure of a service type in a local service area.
- **The third level catastrophic failures (Cat 3)** shall be defined as the total loss of more than one service type in a local service area, or the loss of any service type on a system wide basis.

### *3.9.4. Contracted Service Performance*

#### 3.9.4.1. Voice Services

- Call completion percentage 99.9999%

  Call completion percentage shall depict the successful completion of attempted switch transactions.

- Grade of Service P.03

  Grade of service shall depict the non-busy destination station call completion.

- Dial Tone availability 99.9999%

  Dial tone availability shall depict the percentage of time dial tone is available within one second of off-hook condition.

- Maximum call setup time 3 seconds

  This is the time from the last digit dialed to the beginning of ringing at the destination central office.

#### 3.9.4.2. Private Line Services

Private line data and video services shall comply with existing Bellcore and other industry standards that apply to the United States. In addition, the state is seeking:

- Percent availability 99.9998%

  This represents the total time services were performing to established parameters divided by the total possible time available.

- Fast restoration time < 300 ms

  This is the time from first detecting a service problem to the time service is restored to the established parameters.

#### 3.9.4.3. Frame Relay Services

- The contractor must provide a turn-key Simple Network Management Protocol (SNMP) system. The SNMP system shall be capable of partitioning to allow limited access/view of network components to individual agencies.
- The contractor must provide network rerouting options for disaster recovery.
- The proposed FRS must meet a Committed Network Availability (CNA) of 99.95%.

### *3.9.5. Performance Deficiencies*

Performance below the defined minimum requirements are service deficiencies, and shall be classified as maintenance MTTR failures with associated contractor consequences in the applicable category of fault as defined above.

### *3.9.6. Contract Service Availability*

Continuing availability of contracted service offerings in the full range of defined features and service performance requirements is a condition of contract. Any service not fully available may be procured by the users through any available procurement alternative, and the contractor shall provide compensation for any service costs that exceed those provided for in the contract. Additionally, the contractor shall compensate DGS/TD for added administrative efforts in the amount calculated by application of established administrative fee schedules to the alternative service compensation payments.

### *3.9.7. Service Level Agreements*

Service Level Agreements (SLAs) for many of the data service offerings are calculated on a Time to Repair per occurrence. For non-catastrophic outages, the clock starts when the customer opens a trouble ticket with the contractor's network management center. In the event of a catastrophic outage, the duration time begins by network alarms or the opening of the initial customer trouble ticket which ever occurs first.

Using trouble ticket duration times as the basis of determining rights and remedies provide the contractors and customers with an easy and convenient method of tracking and measuring SLAs. Many of the SLA penalties are progressive with customer rights and remedies beginning at 15% of Monthly Reoccurring Cost (MRC) up to 100% MRC. Rights and remedies may never exceed 100% MRC and are not accumulative.

Stop clock conditions are critical when calculating SLA remedies. The use of these conditions will determine network outage durations. Each data network outage may translate into a rebate for the customer.

### *3.9.8. Client Advocacy*

DGS/TD maintains a client advocate function involving provisioning and ongoing network service delivery. DGS/TD has access to several contractor provided toll and reports that allow monitoring or customer network trouble reports and the contractor's corrective action. DGS/TD's role as a customer advocate may be invoked by the escalation process, customer requests, contractor requests, or as a result of service and process monitoring. DGS/TD's has enhanced communication and coordination

capabilities with responsible contractor staff at levels beyond normal trouble reporting and initial order submittal processing.

### 3.9.8.1. Service Evaluations

DGS/TD has regularly scheduled proactive interaction with customer agencies to evaluate the provisioning and network performance levels they are experiencing with the contracted services. The specific areas discussed with customer agencies include, but are not limited to, the following:

- Identifiable issues of quality.
- Specific problems.
- General levels of service
- Needs for business-enabling changes to be considered in the planning and management of contracted services.
- Whether provisioning commitments are being met.

DGS/TD evaluates voice and data services independently through the use of real-time tools, trending tools and performance reports provided by the contractors. These tools and reports provide a statewide view of service and vendor performance. This knowledge allows DGS/TD to oversee and proactively respond to many service issues identified.

Refer to Table B for a list of tool and reports.

### 3.9.8.2. Client Problem Escalation

The contractor has a trouble reporting and escalation procedure to follow for all contracted services. This includes providing a toll free number for facilitating timely responses to customer agency trouble reports. This center is staffed 24 hours a day, 7 days a week and provides clients with the following options:

- Trouble-reporting for any service and/or escalation of any previously reported problems.
- Status on resolving the causes of major outages.
- Service order inquiries.

DGS/TD assists customer agencies in escalating issues and concerns that have not been resolved through customer contact with the contractor. To facilitate the escalation process the contractor:

- Provides an escalation list with contact alternatives.
- Coordinates contractor and State resources.

- Provides technical analysis of significant and difficult problems of service or provisioning.

#### 3.9.8.3. Client Service Information

DGS/TD provides clients with information regarding contracted services. This information includes, but is not limited to, the following:

- Available service types and rates.
- Guidance on proper use of service features.
- State contact referrals for services not routinely available through this contract.

### *3.9.9. Fiscal Management*

DGS/TD contract oversight and management ensure contractor performance in providing services according to the terms and conditions of the contract, and to validate the projected cost/benefit to the State. In addition to service delivery, the contractor collects administrative fees determined by DGS/TD on contracted services. These administrative fees are charged to customer agencies for use of the contract and are invoiced on a monthly basis. DGS/TD receives a monthly payment for administrative fees billed and collected.

Fiscal management oversight includes, but is not limited to the following:

- Monitoring agency use of the contract and adherence to established policies/directives.
- Reconciling anticipated administrative fee revenues with contractor monthly checks.
- Performing cost recovery analysis and adjusting administrative fee rate(s) as necessary.
- Performing periodic audits of agency invoices and service requests to verify accuracy of applied charges and effective use and application of service offerings to maximize cost effectiveness.

The contractor provides to DGS/TD monthly fiscal summary and detailed reports identifying products/services utilized under the contract. The summary report provides the service period, identification of service type, quantities, total calls, total minutes, total recurring charges, non-recurring charges, total usage, total taxes/surcharges, total credits and adjustments, administrative fee rate charges, total administrative fees collected, and total charges.

The Summary of Services Billed Report includes totals at the highest level of the billing hierarchy and includes subtotals by designated agency groups and sub-groups by service. The detailed report identifying

products/services provides similar information that the summary report provides and in addition includes the feature type and service component ID. This is reported at the feature type level. The contractor also provides DGS/TD the billing data to create custom reports.

The contractor also provides monthly fiscal summary and detailed reports identifying all products/services implemented under the contract for each customer agency. The summary report provides the customer bill group, agency name, agency ID, billing number, billing number name, service period, identification of service type, quantities, total calls total minutes, total recurring charges, non-recurring charges, total usage, total taxes/surcharges, total credits and adjustments, administrative fee rate charges, total administrative fees collected, and total charges.

The Summary of Services By Agency Report reflects totals at the highest level of the billing hierarchy and includes subtotals by designated agency groups and sub-groups detailed by billing number. The detailed report identifying an agency provides similar information that the summary report provides and in addition includes the feature type and service component ID. This is reported at the feature type level. The contractor also provides DGS/TD the billing data to create custom reports.

The contractor also provides to DGS/TD a Revenue Report as requested identifying all products/services implemented under the contract. The report provides the service period, identification of service type, feature type, service component ID, current quantities, minutes, tariff rates if applicable, contract rate, administrative fee rate, customer rate (contract rate with administrative fee), administrative fee revenues, and revenue totals.

The identified management reports are delivered to DGS/TD by electronic means.

### *3.9.10. Management Tools and Reports*

DGS/TD uses this contract as a means of intrinsically acquiring, installing, supporting, and maintaining all electronic hardware and software required for accessing and processing information necessary to perform State service oversight, client advocacy, and fiscal management responsibilities.

Network tools and reports listed in Table B are provided by the contractor to DGS/TD as a means to oversee the contract. These tools and reports are utilized by the State to perform daily, monthly and quarterly analysis.

DGS/TD in its contract oversight capacity receives regular and comprehensive management reports that include:

- Traffic patterns
- Circuit utilization
- Fault detection and diagnosis

- Maintenance on all voice or data circuits
- Real-time circuit utilization display
- Real-time trouble ticket tracking
- Network trending
- Order tracking
- SLA rebates
- Quarterly inventory reporting
- Fiscal reports

DGS/TD in its contract oversight capacity also requires detailed management information be made available. All network management tools and reports are made accessible to DGS/TD from its location at 601 or 630 Sequoia Pacific Blvd., Sacramento. The contractor provides transport, equipment and software needed to allow DGS/TD access to management tools and reports.

### *3.9.11. Cost Reduction Plan*

DGS/TD recognizes that the information technology marketplace is a very competitive environment. As rates are reduced, features continue to expand, and new technology becomes available, the contractor participates with DGS/TD in an Annual Service Review of market rates, features, and services to ensure the State is receiving the best-cost performance from the services available. The contractor's performance is measured and evaluated in part on their ability to deliver a cost competitive service to the State throughout the term of the contract. Services that do not meet a performance or cost criteria may be subject to contract removal provisions or state exemption policies.